

RICK HAMILTON

Expert Witness Artificial Intelligence & Machine Learning Systems, Enterprise Software, Healthcare Technology, & Patent Matters
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EXPERT PROFILE

Technical expert in artificial intelligence and machine learning systems, enterprise software and cloud architecture, healthcare technology, and patent matters, with 30+ years of experience and a rare cross-disciplinary depth spanning production AI, healthcare IT, and intellectual property. Named inventor on 1,064 issued U.S. patents; recognized as the 18th most prolific inventor in the world (USPTO / PTOS, January 2020). Former *Vice President and Senior Distinguished Engineer* at UnitedHealth Group; former *Chief Technology Officer* at the Focused Ultrasound Foundation; nearly 25 years at IBM across software development, enterprise architecture, AI/IoT strategy, and IP development. Currently retained as an independent technical expert in U.S. patent prosecution involving AI-driven healthcare technology systems.

EXPERT WITNESS SERVICES

- **Areas of engagement:** patent validity and invalidity analysis; claim construction; infringement and non-infringement analysis; prior-art evaluation and reference mapping; prosecution-history analysis; technical expert declarations under 37 CFR § 1.132; technical tutorials for legal teams; and consulting-expert opinions on complex technology matters.
- **Technical subject-matter focus:** AI/ML systems architecture and model lifecycle; generative and agentic AI; large language models; AI governance, data lineage, provenance, and reproducibility; enterprise software, microservices, APIs, and cloud architecture; healthcare IT, including EHR/EMR systems, clinical workflows, interoperability, claims processing, and AI-enabled clinical systems; and medical-device technology.
- **Engagement types:** written declarations and expert reports, prior-art review, technical analysis and claim mapping, and consulting opinions; available for deposition and trial testimony.

RETAINED EXPERT EXPERIENCE

Retained Technical Expert — Healthcare Technology Patent Prosecution

Retained as an independent technical expert in U.S. patent prosecution involving AI-driven healthcare technology systems. Prepared and continues to prepare multiple expert declarations under 37 CFR § 1.132 across related continuation applications, providing technical analysis of claim limitations, prior-art references, and prosecution history, including analysis relevant to patent-eligibility issues following appellate proceedings. Each declaration is tailored to the technical specifics of the application it supports.

Testimony history: Prior expert work has consisted of technical declarations and consulting analysis under 37 CFR § 1.132. No prior deposition or trial testimony to date; available and prepared for deposition and trial engagements.

INTELLECTUAL PROPERTY & PATENT EXPERIENCE

- **Patent claim analysis & prior art:** technical claim analysis, prior-art evaluation, and reference mapping supporting infringement/non-infringement and validity assessment; technical analysis of file histories and examiner positions.
- **Technical infringement analysis:** led technical aspects of IBM infringement actions against services and financial-sector competitors associated with substantial licensing revenue; advised a research university and technology startups on IP assertion approaches.
- **Patent portfolio & licensing:** eight years in IBM's IP Strategy organization on portfolio licensing and inventor development; nearly five years at UnitedHealth Group setting filing strategy and operating cross-functional Patent Review Boards to assess technical novelty ahead of filing (final filing decisions rested with legal).
- **Invention harvesting:** extracted high-value inventions from IBM acquisitions (SoftLayer, Blue Box Cloud), internally at UHG, and for external clients.
- **International IP advisory:** IP strategy and training for clients including Fluor, TD Bank, Qatar Foundation, King Abdulaziz City for Science and Technology (Saudi Arabia), Masdar (UAE), Saudi ARAMCO, the National IP Management Office (South Africa), and the Abu Dhabi Technology Development Committee, among others.
- **NPE risk mitigation:** led UHG membership in LOT Network; advocated for Open Invention Network participation; published on patent-assertion-entity risks to healthcare innovation (Health Data Management, 2021).

PROFESSIONAL EXPERIENCE

Principal, Rick Hamilton, LLC; Co-Founder, Hamilton & Boss

July 2025 – Present

Independent advisory practice serving founders, executives, and patent counsel. Delivers expert technical opinions, AI strategy and governance services, and IP strategy consulting. Engagements contracted through Rick Hamilton, LLC.

Chief Technology Officer, Focused Ultrasound Foundation

Mar 2022 – June 2025

Led organization-wide AI transformation for a global medical-technology nonprofit. Developed an AI governance framework of 70+ policies spanning ethics, risk, and compliance; achieved 92% staff adoption (73.6 NPS). Led an AI/ML research program analyzing 130+ papers on AI in focused ultrasound therapeutics; launched a federated-learning initiative with European hospital partners; established a research partnership (MOU) with the University of Virginia School of Data Science. Advised early-stage medical-device companies on technology roadmaps and IP strategy.

Distinguished Engineer (2017–2019); VP & Senior Distinguished Engineer (2019–2022), UnitedHealth Group

Apr 2017 – Mar 2022
Conceived and scaled an enterprise-wide Invention Program spanning AI, digital health, and genomics; grew annual patent filings from 17 to 174. Established technology governance frameworks and review processes; trained 7,000+ employees on innovation and IP best practices. UHG recognized as #3 globally for high-quality AI healthcare patents (Dolcera analysis, reported in Intellectual Asset Management, 2021).

Multiple Technical & Leadership Roles, IBM

Dec 1992 – Apr 2017

Nearly 25-year career including *Watson IoT Partnership Innovation Leader*, *Cloud Offering Evangelist*, *Executive IT Architect*, and *software engineer*. Co-launched an Innovation and Intellectual Property Services consulting business serving 35+ global clients across five continents with P&L accountability. Led the technical approach on patent licensing campaigns against services and financial-sector competitors; managed IBM's first open-source patent contributions. Client engagements across financial services & banking, healthcare & life sciences, retail, entertainment & media, energy & utilities, government, and manufacturing.

CREDENTIALS & RECOGNITION

- **Patent portfolio:** named inventor on 1,064 issued U.S. patents spanning AI/ML, cloud computing, IoT, healthcare IT, data analytics, natural language processing, immersive computing, and enterprise software. H-index of 99 with 38,000+ citations (Google Scholar); disclosures substantively cited across the technical and academic literature.
- **Recognition:** 18th most prolific inventor in the world as of January 2020 (Patent & Trademark Office Society Annual Meeting, USPTO Headquarters); AAAS-Lemelson Invention Ambassador (2016–2017 cohort).
- **Certifications:** IBM Certified IT Specialist (2000; recertified 2003); IBM Certified IT Architect (2006).
- **Teaching:** co-instructor (with Kerrie Holley, National Inventors Hall of Fame inductee), “The AI-Powered Inventor: Idea to Patent” (Maven); delivered invention-practices training across IBM, UHG, and external clients on five continents.

EDUCATION

M.S., Electrical Engineering — University of Texas, Austin

M.S., Engineering Management — Southern Methodist University, Dallas

B.S., Electrical Engineering — University of Tennessee, Knoxville

SELECTED PUBLICATIONS

AI Governance & Enterprise AI

- Four-part AI governance series (2026): “AI Governance Is Broken. Here's How to Fix It” (three-pillar accountability framework); “AI Risks Don't Wait for Committees” (operational AI risk across five domains); “Data Governance for AI Must Be Executable”; and “Who Should Own Enterprise AI Governance?” (with N. Nayar and J. Singh).
- “Agentic AI: Enterprise Adoption” (with N. Nayar, J. Singh); a two-part series on AI context architecture and human-AI collaboration (“Stop Briefing a Brilliant Stranger,” “When AI Remembers”).

AI/ML in Healthcare & Patent Strategy

- “The Role of AI in Focused Ultrasound” (survey of 130+ research papers on AI/ML in neurological, gynecological, and oncological treatments); three-part “Innovation to Impact — AI and Focused Ultrasound” series.

- “Why Patent Losses Are a Risk to Industry Innovation” (Health Data Management, 2021); two-part patent-strategy series for medical-device manufacturers (Focused Ultrasound Foundation, 2022).

SELECT SPEAKING & PRESENTATIONS

- Keynote, Patent & Trademark Office Society Annual Meeting (Feb 2020), Clara Barton Auditorium, USPTO Headquarters; subsequently, was also Guest Speaker, USPTO Full Signatory Authority Ceremony (Nov 2020).
- Co-presented “Intellectual Property: Best Patent Practices” (2023) with Drew Hirshfeld, former U.S. Commissioner for Patents; additionally, engaged in keynote and other public conversations with USPTO Deputy Director (and later Acting Director) Derrick Brent (2022; 2025).
- Keynotes and invited talks on AI, IP, and cloud technologies to corporate, government, and academic audiences across 30+ countries, including Israel Brain Technologies (BrainTech), the CFA Institute (South Africa), and international technology forums.

BOARD & PROFESSIONAL AFFILIATIONS

- Board Member: Virginia Biotechnology Association; Pulp Digital (AI healthcare startup).
- Founders' Mentor: Lighthouse Network and CvilleBioHub, advising AI and healthcare startups on technology and IP strategy.
- Former Leadership Team Member: IBM Academy of Technology; UHG Academy of Technology. Former leader, UHG Technology Leadership Career Path (~600 senior technologists).

ENGAGEMENT TERMS

Available for expert witness engagements, consulting-expert opinions, technical analysis, patent-prosecution support, and prior-art review. Engagements may include deposition and trial testimony, written expert reports and declarations, technical tutorials for legal teams, and consulting opinions on technology matters. Rate and engagement structure provided upon inquiry; supporting documentation available upon request.